

Claims

- 1 1. A method for processing a data set, comprising the steps of:
 - 2 providing a data set having a first length;
 - 3 formatting a key to the first length;
 - 4 setting pre-determined bits of the formatted key to zero to yield a masked
 - 5 key; and
 - 6 forming an exclusive-OR result of the data set with the masked key to
 - 7 yield an encrypted data set.

- 1 2. The method of claim 1, further comprising the step of replacing the data set
2 with the encrypted data set.

- 1 3. The method of claim 1, wherein the first length comprises four high order bits
2 and four low order bits.

- 1 4. The method of claim 3, wherein the forming step yields an encrypted data set in
2 which only the four low order bits are encrypted.

- 1 5. The method of claim 3, wherein the setting step comprises setting the four high
2 order bits to zero.

1 6. The method of claim 5, wherein the step of setting the four high order bits to
2 zero comprises forming an AND result of the truncated key with binary 0000
3 1111.

1 7. The method of claim 1, further comprising decrypting the encrypted data set by
2 forming an inverse exclusive-OR result of the encrypted data set with masked key.

1 8. The method of claim 1, wherein the forming step yields an encrypted data set
2 that is entirely within the ASCII printable range.

1 9. The method of claim 1, wherein the step of formatting a key comprises:
2 providing a second data set having a second length;
3 replicating the second data set as necessary until its length is equal to or
4 greater than the first length; and
5 truncating the second data set as necessary until its length equals the first
6 length.

1 10. A method for processing a data set, comprising the steps of:
2 providing a data set having a first length that includes at least four low
3 order bits;
4 providing a key having a second length;
5 formatting the key to equal the first length; and
6 performing a logical operation on the four low order bits of the data set
7 with a corresponding four low order bits of the formatted key.

1 11. The method of claim 10, further comprising the step of replacing the four low
2 order bits of the data set with results of the logical operation.

1 12. The method of claim 10, wherein the first length further includes four high
2 order bits.

1 13. The method of claim 12, further comprising the step of setting the four high
2 order bits of the key to zero, prior to the forming step.

1 14. The method of claim 13, wherein the setting step comprises forming an AND
2 result of the formatted key with binary 0000 1111.

1 15. The method of claim 10, further comprising the step of performing an inverse
2 logical operation on four low order bits of the encrypted data set with the four low
3 order bits of the formatted key to yield a decrypted data set.

1 16. The method of claim 10, wherein the step of providing a key comprises:
2 providing a second data set having a second length;
3 formatting the key to the first length.

1 17. The method of claim 10, wherein the forming step yields an encrypted data set
2 that is entirely within the ASCII printable range.

1 18. A system for processing a data set having a first length, comprising:
2 a system for formatting a key to the first length;
3 a system for setting pre-determined bits of the key to zero to yield a
4 masked key; and
5 a system for forming an exclusive-OR result of the data set with the
6 masked key to yield an encrypted data set.

1 19. The system of claim 18, wherein the system for setting pre-determined bits of
2 the key to zero includes a system for forming an AND result of the formatted key
3 with binary 0000 1111.

1 20. The system of claim 18, wherein the system for formatting comprises:
2 a system for providing a second data set;
3 a system for replicating the second data set as necessary until its length is
4 equal to or greater than the first length; and
5 a system truncating the second data set as necessary until its length equals
6 the first length.

1 21. The system of claim 18, wherein the first length comprises four bits high order
2 bits and four low order bits.

1 22. The system of claim 21, wherein the pre-determined bits set to zero are the
2 four high order bits.

1 23. The system of claim 21, wherein the system for forming yields an encrypted
2 data set wherein only the four low order bits are encrypted.

1 24. The system of claim 21, further comprising a system for replacing the four low
2 order bits of the data set with the determined exclusive-OR result.

1 25. The system of claim 18, further comprising a system for decrypting the
2 encrypted data set by forming an inverse exclusive-OR result of the encrypted data
3 set with the masked key.

1 26. The system of claim 18, wherein the encrypted data set is entirely within the
2 ASCII printable range.

1 27. A system for processing a data set, comprising:
2 a data set having a first length that includes at least four low order bits;
3 a key having a second length;
4 a system for formatting the key to equal the first length; and
5 a system for forming an exclusive-OR result of the four low order bits of
6 the data set with a corresponding four low order bits of the formatted key to yield
7 an encrypted data set.

1 28. The system of claim 27, wherein the encrypted data set is entirely within the
2 ASCII printable range.

1 29. A program product stored on a recordable media for processing a data set
2 having a first length, which when executed, comprises:

3 a system for formatting a key to the first length;
4 a system for setting pre-determined bits of the key to zero to yield a
5 masked key; and
6 a system for forming an exclusive-OR result of the data set with the
7 masked key to yield an encrypted data set.

1 30. The program product of claim 29, wherein the system for setting pre-
2 determined bits of the key to zero includes a system for forming an AND result of
3 the formatted key with binary 0000 1111.

1 31. The program product of claim 29, wherein the system for formatting
2 comprises:

3 a system for providing a second data set;
4 a system for replicating the second data set as necessary until its length is
5 equal to or greater than the first length; and
6 a system for truncating the second data set as necessary until its length
7 equals the first length.

1 32. The program product of claim 29, wherein the first length comprises four bits
2 high order bits and four low order bits.

1 33. The program product of claim 32, wherein the pre-determined bits set to zero
2 are the four high order bits.

1 34. The program product of claim 32, wherein the system for forming yields an
2 encrypted data set wherein only the four low order bits are encrypted.

1 35. The program product of claim 29, further comprising a system for replacing
2 the four low order bits of the data set with the determined exclusive-OR result.

1 36. The program product of claim 29, further comprising a system for decrypting
2 the encrypted data set by forming an inverse exclusive-OR result of the encrypted
3 data set with the masked key.

1 37. The program product of claim 29, wherein the encrypted data set is within the
2 ASCII printable range.